

CLAIMS

1. A method for treating a condition selected from the group consisting of Drug-Induced Dyskinesias, Tardive Dyskinesias, motor fluctuations, cognitive symptoms of Parkinson's disease, Neuroleptic Malignant Syndrome, and negative symptoms of schizophrenia, said method comprising administering to a patient in need of said treatment, in an effective regimen and amount, a composition comprising an active ingredient which is a compound selected from the group consisting of: 7-chloro-4-(4-diethylamino-1-methylbutylamino)quinoline (chloroquine); 7-fluoro-4-(4-diethylamino-1-methylbutylamino)quinoline; 4-(4-diethylamino-1-methylbutylamino)quinoline; 7-hydroxy-4-(4-diethylamino-1-methylbutylamino)quinoline; 7-chloro-4-(4-diethylamino-1-butylamino)quinoline (desmethylchloroquine); 7-fluoro-4-(4-diethylamino-1-butylamino)quinoline; 4-(4-diethylamino-1-butylamino)quinoline; 7-hydroxy-4-(4-diethylamino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-fluoro-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-fluoro-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-chloro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline (hydroxychloroquine); 7-fluoro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-hydroxy-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; hydroxychloroquine phosphate; 7-chloro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline (desmethylhydroxychloroquine); 7-fluoro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-hydroxy-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-fluoro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-fluoro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline;

(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 8-[(4-aminopentyl)amino]-6-methoxydihydrochloride quinoline; 1-acetyl-1,2,3,4-tetrahydroquinoline; 8-[4-aminopentyl)amino]-6-methoxyquinoline dihydrochloride; 1-butyryl-1,2,3,4-tetrahydroquinoline; 3-chloro-4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl)amino]-6-methoxyquinoline; 3-fluoro-4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl)amino]-6-methoxyquinoline; 4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl)amino]-6-methoxyquinoline; 3,4-dihydro-1-(2H)-quinolinecarboxyaldehyde; 1,1'-pentamethylenediquinoleinium diiodide; and 8-quinolinol sulfate, racemic mixtures, and enantiomers thereof, phosphate salts and other suitable pharmaceutical salts thereof, and mixtures thereof.

15 2. The method of claim 1 wherein said active ingredient is covalently linked or complexed or mixed with an adjuvant.

20 3. The method of claim 2 wherein said adjuvant is a peripheral metabolism inhibitor that inhibits peripheral metabolism of said active ingredient.

25 4. The method of claim 3 wherein said peripheral metabolism inhibitor is an inhibitor of cytochrome P450 2D6 selected from the group consisting of amiodarone, celecoxib, chlorpheniramine, cimetidine, clomipramine, fluoxetine, levomepromazine, metoclopramide, mibepradil, moclobemide, paroxetine, quinidine, ranitidine, ritonavir, sertraline, and terbinafine; or a cytochrome P450 3A enzyme inhibitor selected from the group consisting of delavirdine, indinavir, nelfinavir, saquinavir, amiodarone, cimetidine, ciprofloxacin, clarithromycin, diethyl-dithiocarbamate, diltiazem, erythromycin, fluconazole, fluvoxamine, itraconazole, ketoconazole, 30 mifepristone, nefazodone, norfloxacinem, and norfluoxetine; or racemic mixtures, enantiomers, suitable pharmaceutical salts of the foregoing, or mixtures of any of the foregoing.

5. The method of claim 2 wherein said active ingredient and adjuvant are present in a

time-release formula wherein said adjuvant is released about 1.5 to two hours prior to release of said active ingredient.

6. The method of claim 1 wherein said condition is a drug-induced dyskinesia.
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7. The method of claim 6 wherein said drug-induced dyskinesia is selected from the group consisting of drug-induced Parkinson's disease, extrapyramidal disorders, akathisia, levodopa-induced dyskinesia, tardive dyskinesia, chorea and ballisms.
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8. The method of claim 1 wherein said condition is motor fluctuations.
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9. The method of claim 1 wherein said movement disorder is selected from the group consisting of idiopathic Parkinson's disease, multiple symptom atrophy associated with Parkinson's disease, Parkinson's Plus Syndrome, Atypical Parkinsonian Disorders, on-off syndrome associated with treatment with dopamine or a dopamine agonist, conditions characterized by nigrostriatal degeneration, vascular Parkinson's disease, Huntington's Chorea, and Wilson's Disease.
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10. The method of claim 1 wherein said condition is a negative symptom of schizophrenia.
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11. The method of claim 10 wherein said negative symptom of schizophrenia is selected from the group consisting of apathy, loss of verbal fluency, affective flattening, lack of motivation, and depression.
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12. The method of claim 1 wherein said condition is Neuroleptic Malignant Syndrome.
13. The method of claim 1 wherein said condition is a cognitive symptom of Parkinson's disease selected from the group consisting of memory loss and loss of ability to multi-task.
14. A method for inhibiting oxidative stress responsible for negative symptoms of schizophrenia in a patient suffering from negative symptoms of schizophrenia, said method comprising administering to said patient, in an effective regimen and amount,

a composition comprising an active ingredient which is a compound selected from the group consisting of: 7-chloro-4-(4-diethylamino-1-methylbutylamino)quinoline (chloroquine); 7-fluoro-4-(4-diethylamino-1-methylbutylamino)quinoline; 4-(4-diethylamino-1-methylbutylamino)quinoline; 7-hydroxy-4-(4-diethylamino-1-methylbutylamino)quinoline; 7-chloro-4-(4-diethylamino-1-butylamino)quinoline (desmethylchloroquine); 7-fluoro-4-(4-diethylamino-1-butylamino)quinoline; 4-(4-diethylamino-1-butylamino)quinoline; 7-hydroxy-4-(4-diethylamino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-fluoro-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-fluoro-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-chloro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline (hydroxychloroquine); 7-fluoro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-hydroxy-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; hydroxychloroquine phosphate; 7-chloro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline (desmethylhydroxychloroquine); 7-fluoro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-hydroxy-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-fluoro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-fluoro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 8-[(4-aminopentyl)amino]-6-methoxydihydrochloride quinoline; 1-acetyl-1,2,3,4-tetrahydroquinoline; 8-[4-aminopentyl)amino]-6-methoxyquinoline dihydrochloride; 1-butyryl-1,2,3,4-tetrahydroquinoline; 3-chloro-4-(4-hydroxy-,-'-bis(2-methyl-1-

pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl)amino]-6-methoxyquinoline; 3-fluoro-4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl)amino]-6-methoxyquinoline; 4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl)amino]-6-methoxyquinoline; 3,4-dihydro-1-(2H)-quinolinecarboxyaldehyde; 1,1'-pentamethylenediquinoleinium diiodide; and 8-quinolinol sulfate, racemic mixtures, and enantiomers thereof, phosphate salts and other suitable pharmaceutical salts thereof, and mixtures thereof.

10 15. The method of claim 14 wherein said active ingredient is covalently linked or complexed or mixed with an adjuvant.

16. The method of claim 15 wherein said adjuvant is a peripheral metabolism inhibitor that inhibits peripheral metabolism of said active ingredient.

15 17. The method of claim 16 wherein said peripheral metabolism inhibitor is an inhibitor of cytochrome P450 2D6 selected from the group consisting of amiodarone, celecoxib, chlorpheniramine, cimetidine, clomipramine, fluoxetine, levomepromazine, metoclopramide, mibepradil, moclobemide, paroxetine, quinidine, ranitidine, ritonavir, sertraline, and terbinafine; or a cytochrome P450 3A enzyme inhibitor selected from the group consisting of delavirdine, indinavir, nelfinavir, saquinavir, amiodarone, cimetidine, ciprofloxacin, clarithromycin, diethyl-dithiocarbamate, diltiazem, erythromycin, fluconazole, fluvoxamine, itraconazole, ketoconazole, mifepristone, nefazodone, norfloxacinem, and norfluoxetine; or racemic mixtures, enantiomers, suitable pharmaceutical salts of the foregoing, or mixtures of any of the foregoing.

20 25. The method of claim 15 wherein said active ingredient and adjuvant are present in a time-release formula wherein said adjuvant is released about 1.5 to two hours prior to release of said active ingredient.

30 19. A method for reducing apoptosis in melanized catecholamine neurons in a patient suffering from a degenerative condition of said neurons, said method comprising administering to said patient, in an effective regimen and amount, a composition a

composition comprising an active ingredient which is a compound selected from the group consisting of: 7-chloro-4-(4-diethylamino-1-methylbutylamino)quinoline (chloroquine); 7-fluoro-4-(4-diethylamino-1-methylbutylamino)quinoline; 4-(4-diethylamino-1-methylbutylamino)quinoline; 7-hydroxy-4-(4-diethylamino-1-methylbutylamino)quinoline; 7-chloro-4-(4-diethylamino-1-butylamino)quinoline (desmethylchloroquine); 7-fluoro-4-(4-diethylamino-1-butylamino)quinoline; 4-(4-diethylamino-1-butylamino)quinoline; 7-hydroxy-4-(4-diethylamino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-fluoro-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-fluoro-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-chloro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline (hydroxychloroquine); 7-fluoro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-hydroxy-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; hydroxychloroquine phosphate; 7-chloro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline (desmethylhydroxychloroquine); 7-fluoro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-hydroxy-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-fluoro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-fluoro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 8-[(4-aminopentyl)amino]-6-methoxydihydrochloride quinoline; 1-acetyl-1,2,3,4-tetrahydroquinoline; 8-[4-aminopentyl)amino]-6-methoxyquinoline dihydrochloride; 1-butyryl-1,2,3,4-tetrahydroquinoline; 3-chloro-4-(4-hydroxy-,-'-bis(2-methyl-1-

5 pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl)amino]-6-methoxyquinoline; 3-fluoro-4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl)amino]-6-methoxyquinoline; 4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl)amino]-6-methoxyquinoline; 3,4-dihydro-1-(2H)-quinolinecarboxyaldehyde; 1,1'-pentamethylenediquinoleinium diiodide; and 8-quinolinol sulfate, racemic mixtures, and enantiomers thereof, phosphate salts and other suitable pharmaceutical salts thereof, and mixtures thereof.

10 20. The method of claim 19 wherein said active ingredient is covalently linked or complexed or mixed with an adjuvant.

15 21. The method of claim 20 wherein said adjuvant is a peripheral metabolism inhibitor that inhibits peripheral metabolism of said active ingredient.

20 22. The method of claim 21 wherein said peripheral metabolism inhibitor is an inhibitor of cytochrome P450 2D6 selected from the group consisting of amiodarone, celecoxib, chlorpheniramine, cimetidine, clomipramine, fluoxetine, levomepromazine, metoclopramide, mibepradil, moclobemide, paroxetine, quinidine, ranitidine, ritonavir, sertraline, and terbinafine; or a cytochrome P450 3A enzyme inhibitor selected from the group consisting of delavirdine, indinavir, nelfinavir, saquinavir, amiodarone, cimetidine, ciprofloxacin, clarithromycin, diethyl-dithiocarbamate, diltiazem, erythromycin, fluconazole, fluvoxamine, itraconazole, ketoconazole, mifepristone, nefazodone, norfloxacinem, and norfluoxetine; or racemic mixtures, enantiomers, suitable pharmaceutical salts of the foregoing, or mixtures of any of the foregoing.

25 23. The method of claim 20 wherein said active ingredient and adjuvant are present in a time-release formula wherein said adjuvant is released about 1.5 to two hours prior to release of said active ingredient.

30 24. A method for selectively increasing glial-derived neurotrophic factor (GDNF) in the substantia nigra, striatum and/or globus pallidus of a patient suffering from a condition characterized by striatal neural degeneration, said method comprising

administering to said patient, in an effective regimen and amount, a composition a
composition comprising an active ingredient which is a compound selected from the
group consisting of: 7-chloro-4-(4-diethylamino-1-methylbutylamino)quinoline
5 (chloroquine); 7-fluoro-4-(4-diethylamino-1-methylbutylamino)quinoline; 4-(4-
diethylamino-1-methylbutylamino)quinoline; 7-hydroxy-4-(4-diethylamino-1-
methylbutylamino)quinoline; 7-chloro-4-(4-diethylamino-1-butylamino)quinoline
(desmethylchloroquine); 7-fluoro-4-(4-diethylamino-1-butylamino)quinoline); 4-(4-
diethylamino-1-butylamino)quinoline; 7-hydroxy-4-(4-diethylamino-1-
butylamino)quinoline; 7-chloro-4-(1-carboxy-4-diethylamino-1-
10 butylamino)quinoline; 7-fluoro-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline;
4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-
diethylamino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-diethylamino-1-
methylbutylamino)quinoline; 7-fluoro-4-(1-carboxy-4-diethylamino-1-
15 methylbutylamino)quinoline; 4-(1-carboxy-4-diethylamino-1-
methylbutylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-diethylamino-1-
methylbutylamino)quinoline; 7-chloro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-
methylbutylamino)quinoline (hydroxychloroquine); 7-fluoro-4-(4-ethyl-(2-
hydroxyethyl)-amino-1-methylbutylamino)quinoline; 4-(4-ethyl-(2-hydroxyethyl)-
20 amino-1-methylbutylamino)quinoline7-hydroxy-4-(4-ethyl-(2-hydroxyethyl)-amino-
1-methylbutylamino)quinoline; hydroxychloroquine phosphate; 7-chloro-4-(4-ethyl-
(2-hydroxyethyl)-amino-1-butylamino)quinoline (desmethylhydroxychloroquine); 7-
fluoro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 4-(4-ethyl-(2-
hydroxyethyl)-amino-1-butylamino)quinoline; 7-hydroxy-4-(4-ethyl-(2-
25 hydroxyethyl)-amino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-ethyl-(2-
hydroxyethyl)-amino-1-butylamino)quinoline; 7-fluoro-4-(1-carboxy-4-ethyl-(2-
hydroxyethyl)-amino-1-butylamino)quinoline; 4-(1-carboxy-4-ethyl-(2-
hydroxyethyl)-amino-1-butylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-ethyl-(2-
hydroxyethyl)-amino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-ethyl-(2-
30 hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-fluoro-4-(1-carboxy-4-ethyl-(2-
hydroxyethyl)-amino-1-methylbutylamino)quinoline; 4-(1-carboxy-4-ethyl-(2-
hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-
ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 8-[(4-
aminopentyl)amino]-6-methoxydihydrochloride quinoline; 1-acetyl-1,2,3,4-
tetrahydroquinoline; 8-[4-aminopentyl)amino]-6-methoxyquinoline dihydrochloride;

1-butryl-1,2,3,4-tetrahydroquinoline; 3-chloro-4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl]amino]-6-methoxyquinoline; 3-fluoro-4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl]amino]-6-methoxyquinoline; 4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl]amino]-6-methoxyquinoline; 3,4-dihydro-1-(2H)-quinolinecarboxyaldehyde; 1,1'-pentamethylenediquinoleinium diiodide; and 8-quinolinol sulfate, racemic mixtures, and enantiomers thereof, phosphate salts and other suitable pharmaceutical salts thereof, and mixtures thereof.

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25. The method of claim 24 wherein said active ingredient is covalently linked or complexed or mixed with an adjuvant.
15. The method of claim 25 wherein said adjuvant is a peripheral metabolism inhibitor that inhibits peripheral metabolism of said active ingredient.
20. The method of claim 26 wherein said peripheral metabolism inhibitor is an inhibitor of cytochrome P450 2D6 selected from the group consisting of amiodarone, celecoxib, chlorpheniramine, cimetidine, clomipramine, fluoxetine, levomepromazine, metoclopramide, mibepradil, moclobemide, paroxetine, quinidine, ranitidine, ritonavir, sertraline, and terbinafine; or a cytochrome P450 3A enzyme inhibitor selected from the group consisting of delavirdine, indinavir, nelfinavir, saquinavir, amiodarone, cimetidine, ciprofloxacin, clarithromycin, diethyl-dithiocarbamate, diltiazem, erythromycin, fluconazole, fluvoxamine, itraconazole, ketoconazole, mifepristone, nefazodone, norfloxacinem, and norfluoxetine; or racemic mixtures, enantiomers, suitable pharmaceutical salts of the foregoing, or mixtures of any of the foregoing.
25. The method of claim 25 wherein said active ingredient and adjuvant are present in a time-release formula wherein said adjuvant is released about 1.5 to two hours prior to release of said active ingredient.
30. A method for reducing thalamic hyperactivity in a patient having a condition associated with thalamic hyperactivity, said method comprising administering to said patient, in an effective regimen and amount, a composition a composition comprising

an active ingredient which is a compound selected from the group consisting of: 7-chloro-4-(4-diethylamino-1-methylbutylamino)quinoline (chloroquine); 7-fluoro-4-(4-diethylamino-1-methylbutylamino)quinoline; 4-(4-diethylamino-1-methylbutylamino)quinoline; 7-hydroxy-4-(4-diethylamino-1-methylbutylamino)quinoline; 7-chloro-4-(4-diethylamino-1-butylamino)quinoline (desmethylchloroquine); 7-fluoro-4-(4-diethylamino-1-butylamino)quinoline; 4-(4-diethylamino-1-butylamino)quinoline; 7-hydroxy-4-(4-diethylamino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-fluoro-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-fluoro-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-chloro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline (hydroxychloroquine); 7-fluoro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-hydroxy-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; hydroxychloroquine phosphate; 7-chloro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline (desmethylhydroxychloroquine); 7-fluoro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-hydroxy-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-fluoro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-fluoro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 8-[(4-aminopentyl)amino]-6-methoxydihydrochloride quinoline; 1-acetyl-1,2,3,4-tetrahydroquinoline; 8-[4-aminopentyl]amino]-6-methoxyquinoline dihydrochloride; 1-butyryl-1,2,3,4-tetrahydroquinoline; 3-chloro-4-(4-hydroxy-,-bis(2-methyl-1-

5 pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl]amino]-6-methoxyquinoline; 3-fluoro-4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl]amino]-6-methoxyquinoline; 4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl]amino]-6-methoxyquinoline; 3,4-dihydro-1-(2H)-quinolinecarboxyaldehyde; 1,1'-pentamethylenediquinoleinium diiodide; and 8-quinolinol sulfate, racemic mixtures, and enantiomers thereof, phosphate salts and other suitable pharmaceutical salts thereof, and mixtures thereof.

10 30. The method of claim 29 wherein said active ingredient is covalently linked or complexed or mixed with an adjuvant.

15 31. The method of claim 30 wherein said adjuvant is a peripheral metabolism inhibitor that inhibits peripheral metabolism of said active ingredient.

20 32. The method of claim 31 wherein said peripheral metabolism inhibitor is an inhibitor of cytochrome P450 2D6 selected from the group consisting of amiodarone, celecoxib, chlorpheniramine, cimetidine, clomipramine, fluoxetine, levomepromazine, metoclopramide, mibepradil, moclobemide, paroxetine, quinidine, ranitidine, ritonavir, sertraline, and terbinafine; or a cytochrome P450 3A enzyme inhibitor selected from the group consisting of delavirdine, indinavir, nelfinavir, saquinavir, amiodarone, cimetidine, ciprofloxacin, clarithromycin, diethyl-dithiocarbamate, diltiazem, erythromycin, fluconazole, fluvoxamine, itraconazole, ketoconazole, mifepristone, nefazodone, norfloxacinem, and norfluoxetine; or racemic mixtures, enantiomers, suitable pharmaceutical salts of the foregoing, or mixtures of any of the foregoing.

25 33. The method of claim 30 wherein said active ingredient and adjuvant are present in a time-release formula wherein said adjuvant is released about 1.5 to two hours prior to release of said active ingredient.

30 34. A therapeutic composition comprising a first active ingredient selected from the group consisting of 7-chloro-4-(4-diethylamino-1-methylbutylamino)quinoline (chloroquine); 7-fluoro-4-(4-diethylamino-1-methylbutylamino)quinoline; 4-(4-

diethylamino-1-methylbutylamino)quinoline; 7-hydroxy-4-(4-diethylamino-1-methylbutylamino)quinoline; 7-chloro-4-(4-diethylamino-1-butylamino)quinoline (desmethylchloroquine); 7-fluoro-4-(4-diethylamino-1-butylamino)quinoline); 4-(4-diethylamino-1-butylamino)quinoline; 7-hydroxy-4-(4-diethylamino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-fluoro-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-fluoro-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-chloro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline (hydroxychloroquine); 7-fluoro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline7-hydroxy-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; hydroxychloroquine phosphate; 7-chloro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline (desmethylhydroxychloroquine); 7-fluoro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-hydroxy-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-fluoro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-fluoro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 8-[(4-aminopentyl)amino]-6-methoxydihydrochloride quinoline; 1-acetyl-1,2,3,4-tetrahydroquinoline; 8-[4-aminopentyl)amino]-6-methoxyquinoline dihydrochloride; 1-butyryl-1,2,3,4-tetrahydroquinoline; 3-chloro-4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl)amino]-6-methoxyquinoline; 3-fluoro-4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl)amino]-6-methoxyquinoline; 4-

(4-hydroxy-,'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl]amino]-6-methoxyquinoline; 3,4-dihydro-1-(2H)-quinolinecarboxyaldehyde; 1,1'-pentamethylenediquinoleinium diiodide; and 8-quinolinol sulfate, racemic mixtures, and enantiomers thereof, phosphate salts and other suitable pharmaceutical salts thereof, and mixtures thereof; and

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a second active ingredient which is dopamine or a dopamine precursor or dopamine agonist; and

10 wherein said first active ingredient and said second active ingredient are present at a ratio between about 5:95 to about 25:75.

35. A therapeutic composition comprising a first active ingredient selected from the group consisting of 7-chloro-4-(4-diethylamino-1-methylbutylamino)quinoline (chloroquine); 7-fluoro-4-(4-diethylamino-1-methylbutylamino)quinoline; 4-(4-diethylamino-1-methylbutylamino)quinoline; 7-hydroxy-4-(4-diethylamino-1-methylbutylamino)quinoline; 7-chloro-4-(4-diethylamino-1-butylamino)quinoline (desmethylchloroquine); 7-fluoro-4-(4-diethylamino-1-butylamino)quinoline; 4-(4-diethylamino-1-butylamino)quinoline; 7-hydroxy-4-(4-diethylamino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-fluoro-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-diethylamino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-fluoro-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-diethylamino-1-methylbutylamino)quinoline; 7-chloro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline (hydroxychloroquine); 7-fluoro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline7-hydroxy-4-(4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; hydroxychloroquine phosphate; 7-chloro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline (desmethylhydroxychloroquine); 7-fluoro-4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 4-(4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-hydroxy-4-(4-ethyl-(2-

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hydroxyethyl)-amino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-fluoro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-butylamino)quinoline; 7-chloro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-fluoro-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 7-hydroxy-4-(1-carboxy-4-ethyl-(2-hydroxyethyl)-amino-1-methylbutylamino)quinoline; 8-[(4-aminopentyl)amino]-6-methoxydihydrochloride quinoline; 1-acetyl-1,2,3,4-tetrahydroquinoline; 8-[4-aminopentyl)amino]-6-methoxyquinoline dihydrochloride; 1-butyryl-1,2,3,4-tetrahydroquinoline; 3-chloro-4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl)amino]-6-methoxyquinoline; 3-fluoro-4-(4-hydroxy--bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl)amino]-6-methoxyquinoline; 4-(4-hydroxy-,-'-bis(2-methyl-1-pyrrolidinyl)-2,5-xylidinoquinoline, 4-[(4-diethylamino)-1-methylbutyl)amino]-6-methoxyquinoline; 3,4-dihydro-1-(2H)-quinolinecarboxyaldehyde; 1,1'-pentamethylenediquinoleinium diiodide; and 8-quinolinol sulfate, racemic mixtures, and enantiomers thereof, phosphate salts and other suitable pharmaceutical salts thereof, and mixtures thereof; and

a second active ingredient which is a dopamine antagonist.

36. The composition of claim 35 wherein said dopamine antagonist is selected from the group consisting of Chlorpromazine, Chlorprothixene, Fluphenazine, Haloperidol, Loxapine, Mesoridazine, Molindone, Perphenazine, Pimozide, Prochlorperazine, Promazine, Thioridazine, Thiothixene, Trifluoperazine, Fluphenazine decanoate and Haloperidol decanoate.